

**POWER MANAGEMENT METHOD FOR CREATING DELIVER
OPPORTUNITIES IN A WIRELESS COMMUNICATION SYSTEM**

ABSTRACT OF THE DISCLOSURE

5 A power management method, in which creation of deliver opportunities for a
wireless station (STA) of a WLAN system is managed using a designated sub-field of the
frame control field in a MAC header. In one embodiment, the STA is adapted (i) to use
the power management sub-field to communicate its power state to the access point (AP)
and (ii) to run a periodicity timer, which starts when the STA has transitioned to the doze
10 state. The STA transitions to the awake state either when it has a data frame available for
transmission to the AP or when the periodicity timer runs out. In another embodiment,
the AP and STA create deliver opportunities by entering a new mode of operation
referred to as interactive traffic power management (ITPM) mode, during which the
power management sub-field is ignored and the more data sub-field is used to
15 communicate the power state and manage transitions of the STA between the awake and
doze states. Embodiments of the invention improve WLAN system performance when
the traffic load is such that data frames become available for transmission both at the
STA and AP at relatively regular intervals, which is typically the case for interactive
voice-over-WLAN applications.